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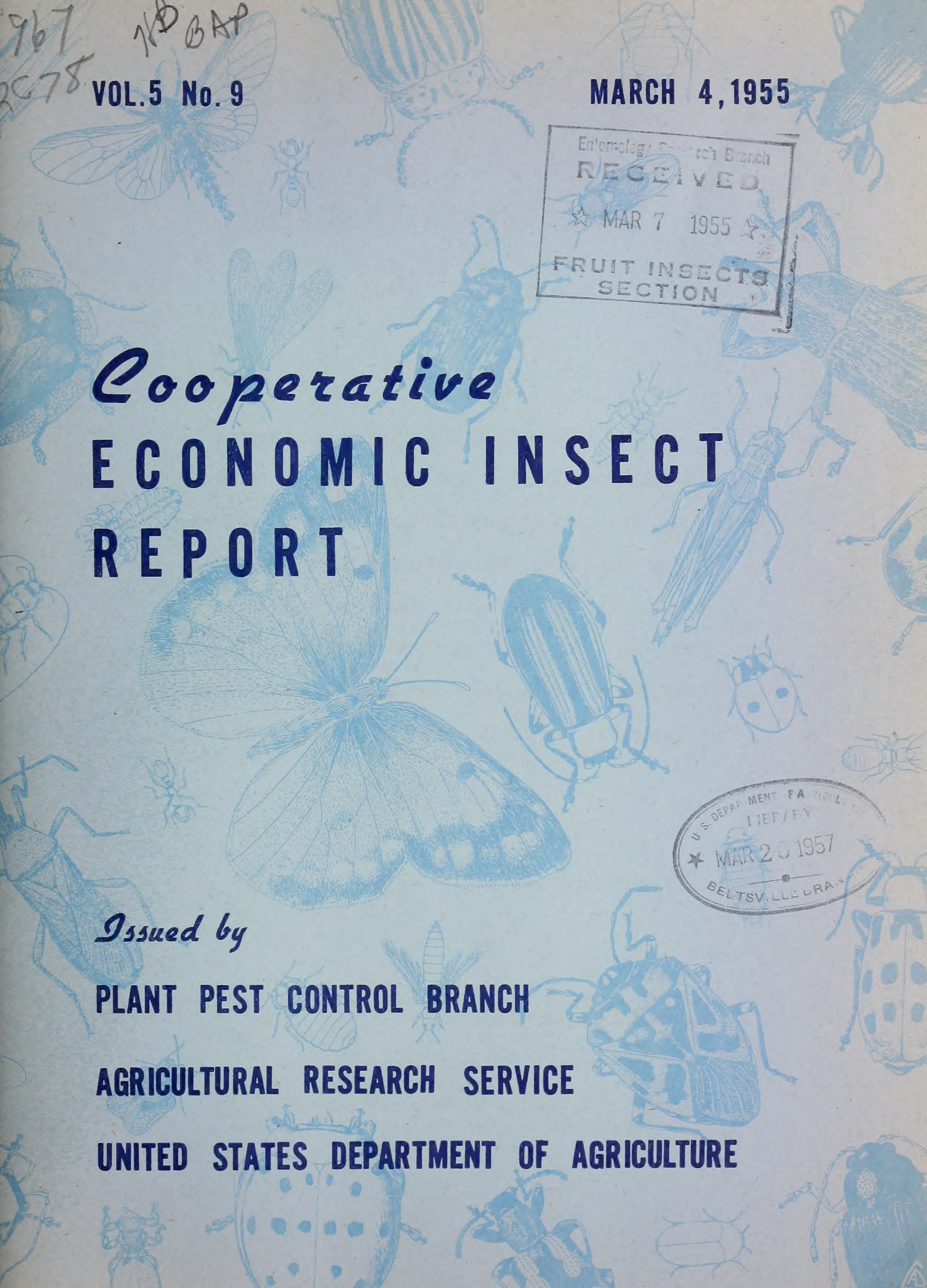

Cooperative
ECONOMIC INSECT REPORT

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PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Economic Insect Survey Section
Plant Pest Control Branch
Agricultural Research Service
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Volume 5 March 4, 1955 No. 9

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GREENBUG populations widespread but mostly low in the Panhandle and South Plains areas of Texas. (page 163).

CHINCH BUG outlook for 1955. (page 164).

BEET LEAFHOPPER outlook for the Intermountain Region. Conditions also reported from Texas. (page 165).

PINK BOLLWORM surface debris inspection report. (page 167).

CATTLE GRUBS abundant some areas of Utah. Maryland and Oklahoma also report activity. (page 168).

Summary of INSECT CONDITIONS-1954-in West Virginia (page 171) and Illinois (page 175).

Status of SOUTHWESTERN CORN BORER - 1954. (page 182).

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Reports in this issue are for the week ending February 25, 1955, unless otherwise designated.

WEATHER FOR THE WEEK ENDING FEBRUARY 28, 1955

East of the Mississippi River temperatures for the week were unseasonably mild, and precipitation generally exceeded one-half inch except in Florida, the Carolinas, and southern portions of Georgia and Alabama. The heaviest rains (2 to over 4 inches) fell in the Ohio Valley, Kentucky, and Tennessee where some streams were overflowing at the close of the period. Temperatures rose rather steadily throughout the period and by the end maxima in the 50's extended northward to the Great Lakes. Above-normal temperatures gradually reduced the snow cover in the North, and stimulated crop growth in the South. The week's precipitation maintained ample soil moisture, except that more rain would be helpful in southern Georgia and northwestern Florida where 1954 was the driest year on record. West of the Mississippi River temperatures for the week averaged below normal by 9° to 18° in the northern Great Plains, by as much as 15° in the central Rocky Mountain region, and 6° in the Pacific Northwest. In the northern Great Plains minima fell to subzero levels each night, and most sections experienced the coldest week of the winter. One of the lowest temperatures reported was -40° at Warroad, Minn. On the same date minima were -20° or lower in central and northeastern South Dakota, all of North Dakota, and a minimum of -11° occurred in northwestern Iowa. Winds and considerable cloudiness added to the disagreeableness of the severe cold. Freezing weather overspread most of the far Southwest at the beginning of the period damaging some cantaloupes in the Yuma area of Arizona and making orchard heating necessary in some districts of the Los Angeles area of California. At the end of the period a general freeze covered the Pacific Northwest, minima falling to 32° at Portland, Oreg., and 27° and 28° at Seattle and Tatoosh Islands, Wash., respectively

Precipitation was generally very light west of the Mississippi, except for moderate to heavy rains along the Pacific Coast and heavy snows in the mountains. Precipitation was entirely lacking in the western portions of the lower Great Plains where continued drought and occasional strong winds further dimmed small grain and pasture prospects. Moisture was also negligible in southern Arizona where ranges need rain and water supplies for livestock are shrinking.

Heavy snows in the western mountains brightened the water supply outlook for the coming crop season considerably. Many stations in the Cascade and Sierra Nevada Mountains reported depth increases of 2 feet or more. Increases in the Rocky Mountains, although somewhat lower, were nevertheless substantial. In

(Weather continued on page 170).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - TEXAS - Surveys for small grain insects from February 7 to 17 in 23 panhandle and south plains counties indicate that low populations of greenbugs exist in all counties, with the exception of a few. Heaviest infestations were found in the following counties: Swisher 30 to 70, Deaf Smith 10 to 40, Randall 75 to 150 and Donley 100 greenbugs per foot of row. Infestations in Haskell County range from 10 to 50 per linear foot of row. (Ashdown, Daniels, Cleveland).

CHINCH BUG (Blissus leucopterus) - OKLAHOMA - Samples from bunch grass averaged 841 per square foot. Numbers following 10° F. weather were not decreased. (Fenton).

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Scarce in 26 panhandle counties in those fields severely damaged by drought. Highest counts were between 5 to 10 mites per foot of row. (Ashdown, Cleveland, Daniels).

CUTWORMS - TEXAS - Several counties in the panhandle averaged 1 or less per foot of row, except Lubbock County where the count ran up to 5. (Ashdown, Cleveland, Daniels).

ALFALFA WEEVIL (Hypera postica) - NEVADA - Adult activity in limited numbers in western area. Some control starting. (Gallaway, Feb. 19).

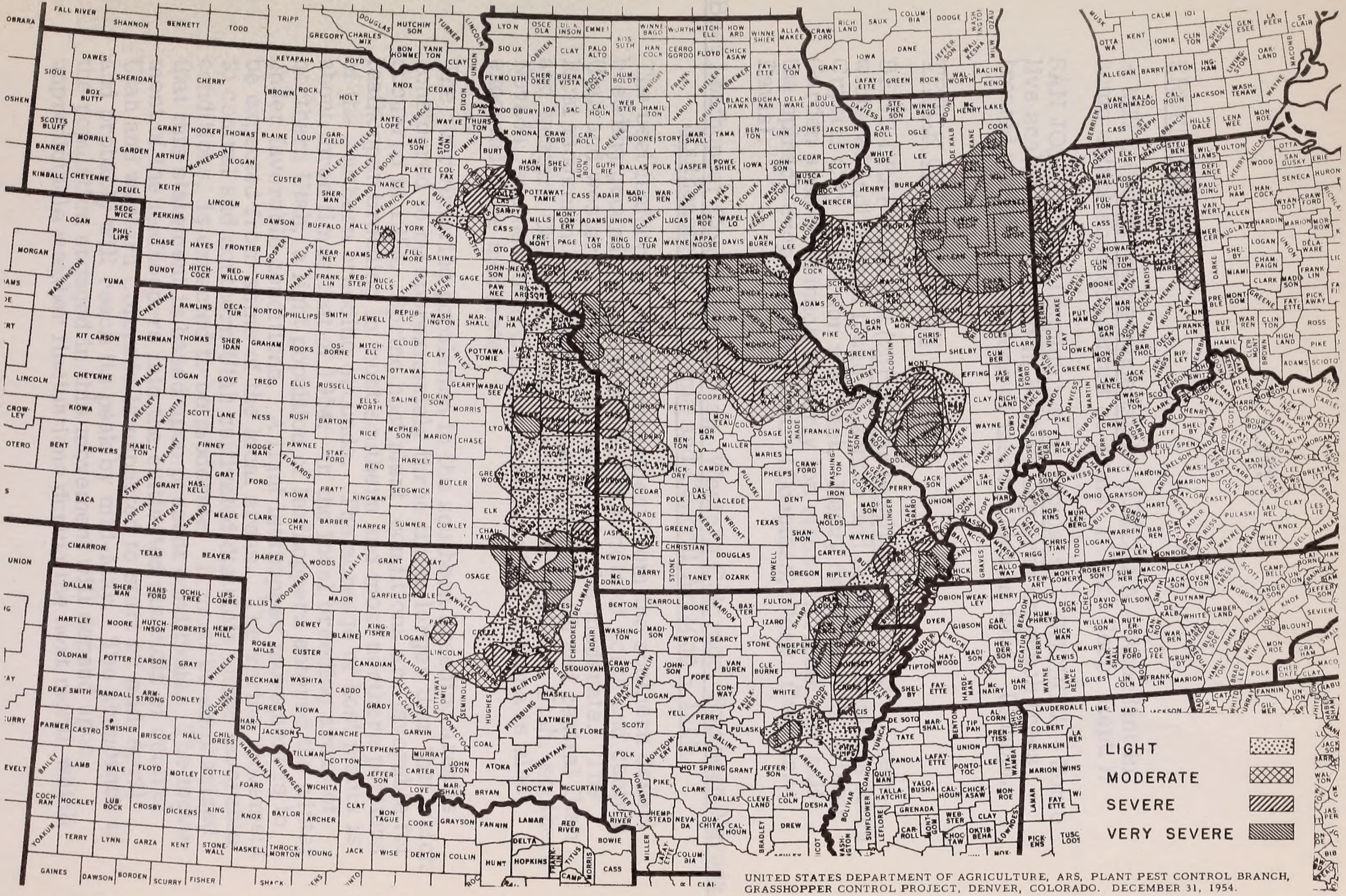
YELLOW CLOVER APHID (Myzocallis trifolii) - TEXAS - Again found in alfalfa fields in the panhandle and is likely to increase now that the alfalfa is beginning to grow. Cold weather of February 10 greatly decreased the numbers. (Ashdown, Cleveland, Daniels). ARIZONA - Scattered infestations in Maricopa, Gila and Yuma Counties. These infestations seem to be relatively stable at present. (Ariz. Coop. Rept.). NEVADA - Viviparous reproduction in progress in many alfalfa fields of southern area. Present numbers indicate possible economic populations will develop on second cutting. (Gallaway, Feb. 19).

POTATO LEAFHOPPER (Empoasca fabae) - TEXAS - Collected on alfalfa, January 26, in Brazos County. Det. D. A. Young. (Cowger). It will be noted that this is an earlier date than the collection in Louisiana (CEIR 4(8):153).

Chinch Bug Outlook for 1955

The problem in 1955 is not expected to differ greatly from that in 1954, when corn and sorghum were damaged in many local areas. Surveys were made late last fall after the adult chinch bugs were in hibernation in Arkansas, Illinois, Indiana, Kansas, Missouri, Nebraska, and Oklahoma. Scattered, locally severe or very severe ratings (see map) were found in northeastern Arkansas, east central Illinois, east central Kansas, northern Missouri, and northeastern Oklahoma. Elsewhere in the states surveyed, the ratings ranged from non-economic to threatening. (Grasshopper Cont. Proj.).

CHINCH BUG INFESTATION IN FALL OF 1954



UNITED STATES DEPARTMENT OF AGRICULTURE, ARS, PLANT PEST CONTROL BRANCH,
GRASSHOPPER CONTROL PROJECT, DENVER, COLORADO. DECEMBER 31, 1954.

GPO 835369

FRUIT INSECTS

A MITE (*Tetranychus yumensis*) - ARIZONA - Abundant in some established grapefruit at Yuma. (Ariz. Coop. Rept.).

SAN JOSE SCALE (*Aspidiotus perniciosus*) - GEORGIA - Some live scales being found in Fort Valley area on peach trees treated with 5 applications of insecticides in 1954. (Snapp).

TRUCK CROP INSECTS

BEET LEAFHOPPER (*Circulifer tenellus*) - TEXAS - Overwintered individuals found on winter and spring host plants from Crystal City to Vernon and west. Heavy damage in the Winter Garden area to spinach by curly top virus. At least one half the spinach crop has been lost. (Douglass, Peay, Cowger, Davis).

Beet Leafhopper Conditions in Utah, Western Colorado, Southern Nevada Southeastern California and Central Arizona - 1955

The beet leafhopper spring movement from the southern desert breeding grounds to the cultivated districts of north and central Utah and western Colorado is expected to be moderate. The local movement is expected to be light in north and central Utah and western Colorado. The movement to southern Utah, southern Nevada, southeastern California and central Arizona is also expected to be moderate.

The overwintering population in the southern breeding area is considered to be approximately three times larger than that which occurred in 1954. Spring host plant conditions are favorable for leafhopper breeding in most southern and most northern portions of the southern breeding grounds. The acreage of host plants is about three times that of 1954. In the local breeding areas of northern Utah, a light popultion of leafhoppers entered the winter under favorable conditions. A light leafhopper movement is to be expected from some of the local areas. The spring movement to central and northern Utah cultivated districts under favorable conditions, is expected to be moderate. It must be emphasized that this statement is based upon present conditions. The movement of the leafhoppers into the cultivated districts of central Utah and western Colorado is expected to start by mid-April and probably will reach its peak by mid-May. The abundance of the population engaged in this movement will depend upon unpredictable weather fluctuations during the next month which affect the development of the beet leafhopper and its host plants. Experience has shown when an early spring follows a mild winter it usually advances the date of the beet leafhopper movement from the uncultivated breeding areas to the cultivated districts. On the other hand, a late spring with excessive rainfall delays the date of the movement. The early winter temperatures have been below normal in the southern area. For these reasons, a later statement will be issued on beet leafhopper conditions. This will be based on additional information obtained from surveys now in progress. (Dorst, Knowlton).

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Medium local infestations on onions in Nueces County. Damaged about 100 acres of onions in the Robstown area. (Nolan).

CABBAGE APHID (Brevicoryne brassicae) - WASHINGTON - Small colonies persist in brussels sprouts in gardens at Sumner. (Doucette, Feb. 15).

GREEN PEACH APHID (Myzus persicae) - NORTH CAROLINA - Very light infestation on turnips in Columbus County. (Rabb, Guthrie).

CLOVER MITE (Bryobia praeticsa) - ARIZONA - On squash on Yuma Mesa. Some leaves mottled. (Ariz. Coop. Rept.).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - FLORIDA - Averaged 1 larva per 100 square yards and was infesting ends and sides of tobacco plant beds at Quincy. (May). NORTH CAROLINA - Light infestation on turnips observed in Columbus County. (Rabb, Guthrie). MISSISSIPPI - Considerable damage to garden crops in Forrest County by larvae. (Sheffield, Feb. 18). TEXAS - Medium local infestation on turnips and cabbage in Washington County. Larvae causing damage, but are about ready to pupate. (Weaver).

SALT-MARSH CATERPILLAR (Estigmene acrea) - FLORIDA - A single newly-emerged adult was collected from a field at Gainesville. (Hetrick).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - FLORIDA - Averaged 75 adults per square foot of a tobacco plant bed at Quincy, Gadsden County. Control used. (May, Rhoades).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - FLORIDA - On the Wild Cotton Eradication Project the first pink bollworms of the season were found February 3 and 5 on a few mature wild cotton plants on Key Largo. Four specimens were recovered from 426 bolls. About 17 locations infested last season have been worked this season and all fruit inspected showed negative results. (Wild Cotton Erad. Proj.).

In the period February 1-15, the inspection of surface debris continued. Many reports continue to emphasize the small amount of cotton debris left in fields in the cultural control areas. MEXICO - Live pink bollworms were found at rate of 3.18 per hundred bolls inspected in the municipio of Matamoros, and 2.88 in Camargo, with the other 6 municipios of Tamaulipas giving negative results. TEXAS - In the three lower valley counties of Cameron, Hidalgo and Willacy, average number of live pink bollworms per 100 bolls was 1.78, or 5.24 per acre in surface debris. Results in the coastal bend counties of San Patricio and Nueces were 1.40 live pink bollworms per 100 bolls inspected, or 9.05 per acre. Bee and Live Oak Counties grouped together showed 3.09 live pink bollworms per 100 bolls inspected, or 15.8 per acre. In grouping Brazos and Washington Counties, results show 29.14 live pink bollworms per 100 bolls, or 2,376 live worms per acre. Medina County shows an average of 14.7 live pink bollworms per 100 bolls inspected, or 117.6 per acre. Tom Green County shows 26.4 live worms per 100 bolls, or 64.2 per acre. The last four counties mentioned appear to be "hot spots" and do not necessarily indicate the degree of infestation in the general area. Comparing the number of live pink bollworms per 100 bolls inspected as of February 15, the totals in Texas show that 5.5 live specimens have been found this year compared with 8.1 as of February 15 of last year.

Results were negative in ARIZONA, LOUISIANA and NEW MEXICO. In OKLAHOMA the inspection in Caddo and Washita Counties resulted in the finding of .81 live pink bollworms per 100 bolls inspected. (PBW Cont. Proj.).

INSECTS AFFECTING OTHER FIBER PLANTS

A CERAMBYCID (Hippopsis lemniscata) - FLORIDA - The first occurrence of this insect on ramie was reported last September (CEIR 4(35): 816, 1954). One of the infested plots reported was left unharvested to observe development of the insects in ramie and their effect on the crop. Although first observations indicated normal oviposition and incubation, by February 1955 no live larvae could be found. Considering that no larvae in ramie appeared to advance beyond the second instar and that most died in the first instar, it is thought that ramie may be a lethal host of H. lemniscata. Inspection of other host species showed that normal progress was made. (Genung).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLE (Ips pini) - VIRGINIA - Damaging a two-acre plantation of red pine in Carroll County. (Lyon).

APHIDS - WASHINGTON - Small colonies of the rose aphid present on breaking buds at Sumner. Reproduction taking place. (Doucette, Feb. 15).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (Hypoderma spp.) - UTAH - Seriously abundant in many herds in some areas of Washington County, February 19. (Hughes, Knowlton). Appearing in considerable numbers in beef cattle in Ogden Valley. Reports coming in from various parts of the State indicate the development of grubs quite generally in Utah. (Burningham, Knowlton). OKLAHOMA - Heel fly activity noted for the past 2 weeks in all parts of the State during warm days. (Stiles). MARYLAND - All of 22 one-year old Herefords in one herd, Montgomery County, infested with H. lineatum. From 5 to 25 grubs per animal. (U. Md., Ent. Dept.).

CATTLE LICE - VIRGINIA - Reported to have been so heavy in a Montgomery County herd that they apparently caused the death of one cow and near death of another. (Kalison). UTAH - Moderately numerous and troublesome in some areas of Washington County. In Juab County 3,000 cattle, in Millard County 7,000, and in Beaver County about 5,500 have been treated this winter. (Knowlton, Burtenshaw, Hughes).

LONG-NOSED CATTLE LOUSE (Linognathus vituli) - FLORIDA - Abundant on cattle at a ranch in Alachua County. Control requested. (Hetrick).

STORED-PRODUCT INSECTS

A MITE (Aceria tulipae) - ILLINOIS - Collected on onion sets in storage in northeastern area during December and February. This is the first known report of the mite in Illinois. (Petty).

MISCELLANEOUS INSECTS

BOXELDER BUGS (Leptocoris trivittatus) - VIRGINIA - Entering houses and causing annoyance in Richmond, Blacksburg and Radford. (Morris). MARYLAND - In homes, Montgomery County. (U. Md., Ent. Dept.).

TERMITES - VIRGINIA - Beginning to swarm in some parts of the State. The first winged forms for the year are reported from Richmond. (Matheny). NORTH CAROLINA - Flights of adult Reticulitermes flavipes observed in mid-February in Rockingham and Wake Counties. (Jones). OKLAHOMA - Zootermopsis angusticollis has been taken in a lumber yard in Duncan in fir shipped from the West Coast. (Bieberdorf).

Light Trap Collections: FLORIDA - Some of the more important insects taken at black light traps are as follows: At Bradenton, February 15--Feltia subterranea 1, Hyphantria cunea 1, Isia isabella 2, Laphygma frugiperda 1, Mocis latipes 1, Peridroma margaritosa 1, Prodenia dolichos 1, P. eridania 6, Udea rubigalis 1 (Kelsheimer, Kimball). At Gainesville, February 1 to 8--Feltia subterranea 1 and Pseudaletia unipuncta 4 (Denmark) At Homestead, January 25 to 30--Anomala undulata 11, Nezara viridula 2, Estigmene acrea 1, Feltia subterranea 11, Prodenia dolichos 5, P. latifascia 4, and Pseudaletia unipuncta 1 (Wolfenbarger). At Sanford, February 2 to 7--Feltia subterranea 3, Heliothis armigera 1, and Pseudaletia unipuncta 1. (Wilson).

RECENT IMPORTANT INTERCEPTIONS AT PORTS OF ENTRY

Of interest recently was the unusual interception of a living adult specimen of Monsteira unicostata Muls. & Rey (Tingidae), the so-called almond bug, or "La Chincheta del Almendro," on pomegranates in baggage from Italy at New York, N. Y. (Lineham). This insect has been reported injurious to almonds, apricots, cherries, pears and plums in Italy, Spain and parts of North Africa. It has also been reported attacking species of poplar, hawthorn and willow. Feeding by this lacebug causes yellow spotting of the leaves. When heavily infested, the foliage of the trees also become unsightly due to a film of insect excreta deposited on the leaves. This film is said to hinder leaf respiration. Further damage is caused by the oviposition punctures of the adults in the leaf tissues. Leaf fall and abnormal second growth later in the season sometimes follows insect attack.

Observations on the biology of the almond bug indicate the eggs are deposited in small groups in the leaf tissues along the main veins on the underside of the leaves. A female may lay 6-15 eggs on a leaf. The eggs hatch in 13-15 days. There are 5 molts with a nymphal stage of 25-30 days duration. Nymphal cast skins remain attached to the leaves. As many as 3 or 4 generations may be produced in a year with considerable overlapping late in the season so that at times all stages may be found. Injury is said to be more serious in late summer. Overwintering occurs in the adult stage in cracks in the tree trunks or in the soil.

M. unicostata has been intercepted on two previous occasions, on plums and with chestnut wood in baggage from Italy at New York, N. Y. It is not known to be present in the United States (Compiled by Plant Quarantine Branch).

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Weather Continued:
the northern Great Plains cold, cloudy weather prevented any melting of the previous week's heavy snowfall which protected small grains from the subzero temperatures. East of the Mississippi River the snow cover retreated to the Canadian Border States, and depths were reduced considerably, by more than a foot in northern New England. (Summary Supplied U.S. Weather Bureau).

SUMMARY OF INSECT CONDITIONS - 1954

WEST VIRGINIA

Prepared by F. W. Craig. C. F.
Bishop, C. K. Dorsey, Edwin Gould,
C. F. Taylor, and E. O. Hamstead
assisted in compiling the report and
making surveys.

The discovery of the ALFALFA WEEVIL (Hypera postica) in Jefferson County and the EUROPEAN CHAFER (Amphimallon majalis) in Hampshire County were the outstanding insect pest developments of the year in West Virginia. The build-up of an UNSPOTTED TENTIFORM LEAF MINER (Callisto geminatella) in Berkeley County, the light, but scattered infestation of FALL CANKERWORM (Alsophila pometaria) and the LINDEN LOOPER (Erannis tiliaria) and the finding of a new infestation of a SCALE (Aspidiotus sp.) on hemlock in Parkersburg, were additional developments. ARMYWORM (Pseudaletia unipuncta) was reported from only one place, Pendleton County, as compared with a heavy and general infestation in 1953. Another group of insects, GALL APHIDS (Chermes abietis and (Pineus similis) which were quite general on spruce in 1953, were very light in 1954. The JAPANESE BEETLE (Popillia japonica) continued to spread and build-up in intensity in some of the older infested areas. The adults were relatively light in Berkeley and Jefferson Counties, continuing the downward trend of the past three years. Adults were very abundant in the southern section of Harrison and Barbour Counties and the northern tip of Upshur, and quite numerous through an eight-county area of the north central part of the State. The infestation continued to build-up in the Ohio Valley from Parkersburg to Moundsville and in the Kanawha Valley just east of Charleston. New outbreaks of this pest at Logan, Logan County, Welch, McDowell County, and Williamson, Mingo County, were discovered during the year. The colony south of Elkins in the Tygart Valley was found to be much stronger than had previously been expected and threatens to invade this rich agricultural section.

Limited surveys for the WHITE-FRINGED BEETLES (Graphognathus spp.) and COTTON STEM MOTH (Platyedra vilella) were negative. An extensive survey in Morgantown, Wheeling and Weirton sections for GYPSY MOTH (Porthetria dispar) was also negative.

Fruit Insects:

The status of common insect pests of tree fruits did not, generally, in 1954, deviate much from the usual pattern but two relatively new insect to West Virginia created much interest and concern even though they were only found at widely scattered points. These two insects were APPLE MAGGOT (*Rhagoletis pomonella*) and the UNSPOTTED TENTIFORM LEAF MINER (*Callisto geminatella*). The former was found for the first time in a commercially sprayed orchard and the latter was severe in several orchards in the eastern panhandle, where it was widely distributed. Damage was most severe in the vicinity of Summit Point, Jefferson County, and the insect was found as far west as Augusta, Hampshire County, by late September. CODLING MOTH (*Carpocapsa pomonella*) was still the most important fruit pest but was considered to be slightly reduced in number from the normal. ROSY APPLE APHID (*Anuraphis roseus*) and WOOLLY APPLE APHID (*Eriosoma lanigerum*) were widespread and damaging in the eastern panhandle fruit section. The APPLE APHID (*Aphis pomi*) also caused severe damage in this section. RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) was not much of a problem until late in the season when it was abundant in the orchards of the eastern panhandle that had failed to control the broods, and in the northern panhandle where it even continued to cause damage to apples in common storage. FORBES SCALE (*Aspidiotus forbesi*) was widespread but probably less abundant than in 1953 and suffered heavy winter mortality. One orchard in Lewis County was heavily infested with SCURFY SCALE (*Chionaspis furfura*). LESSER PEACH BORER (*Synanthedon pictipes*) was plentiful in one orchard in Braxton County. ROSE CHAFER (*Macrodactylus subspinosus*) and the BLACK PEACH APHID (*Anuraphis persicae-niger*) were not reported though they have been troublesome in past years.

Small Fruit Insects:

Several CATERPILLARS were destructive to strawberry foliage early in the summer in Randolph County. Included in this group were VARIEGATED CUTWORM (*Peridroma margaritosa*), *Morrisonia confusa* (also fed heavily on the blossoms), and *Eupsilia* sp.

Truck Crop Insects:

Several outbreaks of the HARLEQUIN BUG (*Murgantia histrionica*) were reported from near Charleston during last of July and BEAN LEAF BEETLE (*Cerotoma trifurcata*) was reported causing damage in scattered areas early in the summer. MEXICAN BEAN BEETLE (*Epilachna varivestis*) was scarce during the early summer but was observed in destructive numbers by midsummer and during the fall. FLEA BEETLES were especially numerous on potatoes, tomatoes and corn but LEAFHOPPERS on beans were slightly less damaging than in 1953. Leafhopper damage to potatoes was very serious throughout the State, as usual. CORN EARWORM (*Heliothis armigera*) and the CORN SAP BEETLE (*Carpophilus dimidiatus*) were generally abundant and the former damaged both corn and tomatoes. IMPORTED CABBAGEWORM (*Pieris rapae*) was more abundant than usual in the Charleston area. The STALK BORER (*Papaipema nebris*) appeared by June 12 but reports of damage were not as frequent as in 1953.

Cereal and Forage Insects:

Among the cereal insects EUROPEAN CORN BORER (*Pyrausta nubilalis*) was present in reduced numbers in the three counties completely surveyed. In Monongalia County borers were common in a field of sweet corn July 23. In Berkeley County 8 to 10 borers per stalk were reported early in the season and in one field in late July as many as 12 to 20 borers per stalk were found. CORN FLEA BEETLE (*Chaetocnema pulicaria*) was abundant and there was considerable Stewart's disease in corn but probably less than in 1953. One outbreak of a SOD WEBWORM (*Crambus luteolellus*) was reported during the year and SEED-CORN MAGGOT (*Hylemya cilicrura*) caused some severe losses in the higher altitudes of Randolph County. LEAFHOPPER damage to the second cutting of alfalfa was light compared with the usual severe loss.

Forest Insects:

The LOCUST LEAF MINER (*Chalepus dorsalis*) was generally serious in Cabell County and in spots in the north central section of the State. Through the rest of the central section it was only moderate. The EASTERN TENT CATERPILLAR (*Malacosoma americanum*) was abundant in Greenbrier County and in local areas near Charleston and in Lewis County. Also common in the central area north of Charleston. Tents were scarce in the southwestern corner and in the eastern panhandle area. The FALL CANKERWORM and LINDEN LOOPER caused scattered light to heavy damage to many forest trees and would appear to be building up to a heavy and general infestation in the next few years. The BAGWORM (*Thyridopteryx ephemeraeformis*) was only moderately abundant and FALL WEBWORM (*Hyphantria cunea*) was very scarce. POPLAR AND WILLOW BORER (*Cryptorhynchus lapathi*) killed several trees (*Populus* spp.) in the Kanawha Valley and a few elm trees in White Sulphur Springs were defoliated by the ELM LEAF BEETLE (*Galerucella xanthomelaena*) during the summer. In the fall housewives in St. Albans, Romney and Berkeley Springs complained of the BOXELDER BUG (*Leptocoris trivittatus*) entering homes.

Ornamental Pests:
Pests of evergreen trees, mostly reported from nurseries, included an outbreak of HEMLOCK SCALE (Aspidiotus ithacea). WHITE-PINE WEEVIL (Pissodes strobi) caused damage in small nursery plantings in Monongalia and Pleasant Counties and WHITE-PINE SAWFLY (Neodiprion pinetum) defoliated the lower limbs on a few white pine near Clarksburg. PINE BARK APHID (Pineus strobi) was generally prevalent but serious outbreaks were unusually scarce. SAWFLIES caused less damage to pine than generally. ARBORVITAE LEAF MINER (Argyresthia thuiella) continued abundant in the known infested spots and, in addition, was found in a few new spots. The JUNIPER WEBWORM (Dichomeris marginella) and the JUNIPER SCALE (Diaspis carueli) likewise continued to be destructive in the limited areas where it has become established. A Lecanium sp. was found on junipers in three nurseries in the north central section of the State. The BALSAM TWIG APHID (Mindarus abietinus) was found infesting spruce at Grafton. The relative light outbreak of SPRUCE GALL APHIDS has previously been mentioned. THRIPS on privet were serious throughout southern West Virginia and at Fort Ashby in Mineral County. No attempt has been made to collect and identify the species. Increasing damage to privet has been noted for several years. LACEBUGS on azaleas and rhododendron were also much more numerous than for a few years. Azaleas in Charleston generally were completely browned in August and September. A local outbreak of the GENISTA CATERPILLAR (Tholeria reversalis) on laburnum occurred in and near Huntington, Cabell County.

Stored Products Insects:
The ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) appeared frequently in stored corn infestations. Several infestations of the RED-LEGGED HAM BEETLE (Necrobia rufipes) were observed. BEAN WEEVIL (Acanthoscelides obtectus) was numerous in 1954 and caused considerable damage to stored beans.

Insect Pests of Structures, etc:
The TERMITE (Reticulitermes flavipes) and the BLACK CARPENTER ANT (Camponotus herculeaneus pennsylvanicus) were about normal in numbers in dwelling infestations.

Household Pests:
A few reports of the CLOVER MITE (Bryobia praeticosa) being abundant on the trunks of apple trees and entering homes were received during the year.

SUMMARY OF INSECT CONDITIONS -1954

ILLINOIS

Prepared by Extension Service
Entomologists

Cereal and Forage Crop Insects:
Small Grains: ENGLISH GRAIN APHID (Macrosiphum granarium), although abundant on wheat heads in one county, was of no consequence generally. The ARMYWORM (Pseudaletia unipuncta) appeared in outbreak proportions. Moth flight was first observed April 6 in southwestern Illinois and numbers of moths increased during the following three weeks. Heavy flights were observed in Champaign and Morris April 14. In northern area, moth flight peak occurred August 20, 21, and 22 when 67, 51, and 53 moths were collected. Early-instar armyworms were first observed April 1-15. Peak populations occurred from May 15 to June 15 as determined by random surveys:

Armyworm Larval Populations Averaged by Date and Section

	Small Grains per Linear Ft.		Grasses per Sq. Ft.	
	5/16-31/54	6/1-15/54	5/16-31/54	6/1-15/54
Northwest	0.0	0.20	--	--
Northeast	0.04	0.55	0.0	--
West	0.0	5.60	0.0	17.50
Central	1.0	2.09	0.71	--
East	0.02	0.49	0.33	8.00
West Southwest	0.06	--	0.0	--
East Southeast	0.28	0.87	0.67	--
Southwest	0.0	--	--	--
Southeast	1.66	--	--	--

Minor outbreaks occurred in early September. A total of 170,000 acres were treated for the control of this pest. The CHINCH BUG (Blissus leucopterus) left winter quarters and appeared in thin wheat fields where damage in isolated instances killed individual wheat plants. Early treatment reduced the damage. Heavy rains during early oviposition and hatching killed a portion of the population thus reducing the potential threat. Dry weather followed and migration of nymphs occurred in June and July. Reported wheat yields in isolated instances were reduced 10 to 15 bushels per acre. Control measures applied in time greatly reduced damage to corn. HESSIAN FLY (Phytophaga destructor) populations were highest in St. Clair County with only 6.4 percent of the tillers infested. WHEAT JOINTWORM (Harmolita tritici) infested 7.2 percent of the tillers in St. Clair County, the highest in the State.

Corn: The CORN FLEA BEETLE (*Chaetocnema pulicaria*) first appeared in southern Illinois April 7 and by April 14 it was collected in the northern most counties. Populations per 100 sweeps in roadside grasses beside old corn fields were as follows:

Av.	5/16-31	6/1-15	6/16-30	7/1-15	7/16-31	8/1-15	8/16-31
Entire State	2.1	7.9	4.5	110.5	122.3	358	322.9

WIREWORMS, BILLBUGS, and WEBWORMS were reported damaging corn in late May and early June. Adults of a LEAF BEETLE (*Myochrous denticollis*) caused damage to two fields of corn on muck land in southwestern Illinois last of May. A TORTRICID (*Sparganothis sufurana*) was common feeding on silks in central and northern Illinois in July and August. The CORN ROOTWORM (*Diabrotica longicornis*) varied from 0 to 41 larvae per hill of corn. Damage was no worse than in 1953. Up to 83 percent of the silks were fed upon by the adults with as many as 8.3 adults per silk. As many as 40 percent of the silks in some fields were infested by adults of the SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*). The BLACK CUTWORM (*Agrotis ypsilon*) destroyed several thousand acres of corn in central and eastern Illinois in May. Damage ranged from 0 to 65 percent and the average of random samples was 9.6 percent. This was small corn and replanting was possible. A later infestation in northwestern and northeastern Illinois in late June caused serious damage since it was too late to replant. As many as 10 larvae were reported taken from one hill of sweet corn. The CORN EARWORM (*Heliothis armigera*) was more abundant than in most years. Early field corn averaged 8 percent silk infestation in southeast Illinois by July 16. An occasional larvae was found in the plant whorl farther north. July 23, 0 to 10 percent of the silks were infested in central and northern areas. During August as many as 50 percent of the ears were found infested in some fields in the northern one-half of the State. In early September, some field corn in southern Illinois had nearly 100 percent of ears infested. FALL ARMYWORM (*Laphygma frugiperda*) was abundant in many fields in September.

EUROPEAN CORN BORER (*Pyrausta nubilalis*) fall populations in 36 counties was 256 compared to the 1949 population in the same 36 counties of 420. In 1953 the population was 170. In southern Illinois, pupation began prior to May 7 and was completed by May 28 when emergence was noted and one egg mass was found on sweet corn in the East St. Louis area. In central Illinois, pupation was 0 - 16 percent by May 21 and was completed by June 18.

In northern Illinois, pupation was 0 to 4 percent by May 21 and was completed by June 18. Fifty percent emergence had occurred in southern Illinois by June 4 and in northern Illinois by June 18, By June 25, emergence was practically complete in most of the State, averaging 90 percent in the northern one-third of Illinois. Oviposition in the northern one-half of Illinois began from June 11 to June 18 and reached the peak between June 25 and July 2 after which it dropped very abruptly. By June 25, 30 to 35 percent of the eggs had hatched, and by July 2, 70 to 95 percent of the eggs had hatched in central and northern counties. Fifth-instar borers were observed the week of July 2 and reached peak by the week of July 23 when 64 percent of all borers were in the fifth instar. Fourteen percent of the borers had pupated by July 23. The number of borers found in the pupal stage reached peak (50 to 75 percent) in the central area the week of July 30. The peak (40 to 60 percent) was reached a week later in northern counties.

Moths began to emerge in the northern half of the State the week of July 23 and from 5 to 58 percent had emerged by August 6 and 85 to 100 percent by August 20. The first egg masses for the second generation in the northern half were observed week of July 30 when two masses per 100 plants were found in Livingston County. During the two-week period August 14 to August 27, the number of egg masses per 100 plants reached peak. At this time, from 28 to 260 masses per 100 plants were found. Hatching of second-generation larvae was well under way (28 percent) in western Illinois by August 13 but had not begun in northern Illinois except in sweet corn. By August 27, hatching was nearly complete in central Illinois and 70 percent completed in northern Illinois. A low egg mass count, 10 to 20 per 100 plants developed the last of August and first of September in southern Illinois indicating the third generation in that area.

The following table shows a brief general tabulation of the fall corn borer survey in Illinois:

Section of State	Borers per 100 Plants
Northwest	360
Northeast	232
West	231
Central	353
East	427
West Southwest	16
East Southeast	12
Southwest	6
Southeast	3

In general the corn borer population in the northern half of the State shows a considerable increase over last year's population. GRASSHOPPERS were not a serious pest of corn in 1954. However, they did move in from roadsides and legume fields and caused a small amount of damage on marginal rows.

Clover and Alfalfa: The CLOVER LEAF WEEVIL (*Hypera punctata*) was not quite as serious in 1954 as in 1953. but it still did a great amount of damage and spraying was necessary to save the crop in many cases. Larval populations gradually increased during March, declined slightly in April, and dropped off rather abruptly in May. State average during the last of March and through April was 20 to 30 larvae per square foot with some fields as high as 100 per square foot. Pupation began the last half of April, reached peak in May, then gradually declined during June. Adults began emerging the latter part of May or first of June and reached peak of abundance the first part of July. PEA APHID (*Macrosiphum pisi*) was again a major pest as in 1953 and treatments were necessary to save many clover fields. Average populations per field ranged from 0 to 196 aphids per square foot in the southern two-thirds of the State the week of April 9 and from 0 to 9 in the northern third,week ending April 16. By April 30, the average numbers in southern two-thirds of Illinois ranged from 21 to 840 per sweep and by May 28 the top figure reached 1,360 aphids per sweep. They may have reached greater numbers as in some cases they were recorded as one-half cup full per sweep and were not counted. The highest figure reached in northern Illinois was 391 per sweep, the week of June 11. During the last of May and in June, aphids attacked new seeding of clover and alfalfa in grain fields and did considerable damage completely destroying the stand in a few cases.

VARIEGATED CUTWORM (*Peridroma margaritosa*) was much more abundant and destructive to clover than for many years. It appeared in fields early in May and apparently reached peak abundance first half of June when fields in the eastern section averaged 10 per square foot, the central section averaged 16.8 per square foot and the western section (not randomly sampled) averaged 30 per square foot. Highest average for one field in these three sections respectively was 26, 54, and 32 per square foot. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) was less numerous than for the last three or four years. Few fields averaged more than one nymph per stem. Most fields averaged 0.5 or less. LESSER CLOVER LEAF WEEVIL (*Hypera nigrirostris*) and its close relative, *H. meles*, were very numerous throughout the southern two-thirds of State and undoubtedly caused much more damage than generally realized, especially to seed crops.

Adults of H. nigrirostris apparently had two peaks in clover fields, once the first of April when over-wintering adults moved into the fields and again in June when new adults emerged from cocoons. One hundred percent of clover stems in some fields were infested. by larvae of one or the other of these two species. During May the following average percent of stems infested was recorded:

Section of the State	Percent of Stems Infested
Northwest	2.86
Northeast	60.00
West	10.00
East	72.00
Southwest	90.00
Southeast	83.00

Adults of H. nigrirostris were found throughout the State, while H. meles was found only in the southern two-thirds. POTATO LEAFHOPPER (Empoasca fabae) first appeared in fields April 26. Relatively speaking it was not as abundant in 1954 and did not damage alfalfa to extent of the previous few years. CLOVER HEAD WEEVIL (Tychius stephensi), which was first found in Illinois about three years ago is now known to be present in at least twelve counties in the northeastern one-fourth of the State. GRASSHOPPERS (Melanoplus spp.) damaged scattered fields throughout the State. LADY BEETLES, combined species, were rather numerous in most clover and alfalfa fields. GARDEN WEBWORM (Loxostege similalis) damaged some alfalfa in central and southern Illinois in July and August. As many as 20 larvae per sweep found in some fields first week in August. They also stripped new seedings of alfalfa in some areas in August. CLOVER ROOT BORER (Hylastinus obscurus) damaged several clover fields in northeastern Illinois. An examination of a field early in August showed 10 percent of the plants killed and 40 percent of the remaining plants infested by average of 5.5 larvae, 1.0 pupae, and 1.75 adults per root. GREEN CLOVERWORM (Plathypena scabra) was more abundant than usual in clover and alfalfa fields but no serious damage was reported. ALFALFA CATERPILLAR (Colias philodice eurytheme) was common in alfalfa fields of central Illinois in early September.

Grass: FALSE CHINCH BUG (Nysius ericae) was reported damaging grass in three different cases first half of July.

Soybeans: CLOVER ROOT CURCULIO (Sitona hispidula) migrated from clover in Fayette County early in July and damaged marginal rows of soybeans. SPIDER MITES were abundant in some fields early in July. MARGINED BLISTER BEETLE (Epicauta pestifera) was reported damaging soybeans in early August. GREEN CLOVERWORM was very destructive to soybeans in localized areas in the southern half of the State in August.

Truck Crop Insects:
BEET LEAFHOPPER (Circulifer tenellus) was present on horseradish in the East St. Louis area and is believed to have caused damage by spreading brittle root disease. CORN EARWORM (Heliothis armigera) moths were numerous and laying eggs and a few small larvae were found on advanced sweet corn by June 4 in East St. Louis area. By July 30, 20 to 50 percent of the ears in untreated sweet corn were reported to be infested in central Illinois. In the southern half of the State as many as 100 percent of the ears were infested with an average of 4.7 larvae per ear in some fields early in September. This pest also caused severe damage to tomato fruits where treatments were omitted. TOMATO RUSSET MITE (Vasates lycopersici), which did much damage to tomatoes in 1952 and 1953, was not present in 1954 except on greenhouse tomatoes where it probably had overwintered under the protection of the greenhouse. COLORADO POTATO BEETLE (Leptinotarsa decemlineata) adults were numerous on tomato plants in Cook County in May and severely damaged some fields. STRIPED CUCUMBER BEETLE (Acalymma vittata) severely damaged Hubbard and other late varieties of squash in Cook County in early June. ONION MAGGOT (Hylemya antiqua) caused some damage to onion sets in Cook County in June. PALE-SIDED CUTWORM (Agrotis malefida) damaged cabbage in Cook County during June. ONION THRIPS (Thrips tabaci) was abundant on "stickout" onions the latter part of June and caused damage to onions in Cook County in July. SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) was abundant on carrots in Cook County the latter part of June.

POTATO LEAFHOPPER (Empoasca fabae) was extremely abundant on potatoes in Cook County the latter part of June. SQUASH BUG (Anasa tristis) was more abundant in northern and central Illinois then for several years. It caused severe damage to many pumpkin fields and treatments were necessary. TOMATO HORNWORM (Protoparce quinquemaculata) was numerous enough to necessitate treatment of some tomato fields in northern Illinois in July. YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) caused damage to onions in Cook County in July. SOUTHERN CABBAGEWORM (Pieris protodice) was present in outbreak numbers on horseradish in Madison and St. Clair Counties the last of August and early September. Counts of 10 per leaf were not uncommon.

Forest, Ornamental, and Shade Tree Insects:

SPIDER MITES, species undetermined, were abundant on spruce in McHenry County in early June. YELLOW-NECKED CATERPILLAR (*Datana ministra*) was abundant and almost completely defoliated many trees in Illinois the last of July and first of August.

Stored Grain Insects:

SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*) was very abundant in the debris of corn cribs and in bins of oats in early September. INDIAN-MEAL MOTH (*Plodia interpunctella*) was common in both ear and shelled 1953 corn in September 1954. MEAL MOTH (*Pyralis farinalis*) was also common in ear and shelled 1953 corn in September 1954.

Miscellaneous Insects:

CLOVER MITE (*Bryobia praetiosa*) was a general nuisance in many homes throughout the State until last of June when it disappeared and did not reappear until around the first of October when large numbers were observed on the sides of houses. BOXELDER BUGS (*Leptocoris trivittatus*) were abundant in the southern two-thirds of the State and began bunching up on tree trunks and the sides of houses causing many complaints in September. COTTON STEM MOTH (*Platyedra vilella*) was not found in the State although hollyhocks were examined in Lee, Marshall, MeLeon, and Champaign Counties.

Status of Southwestern Corn Borer - 1954

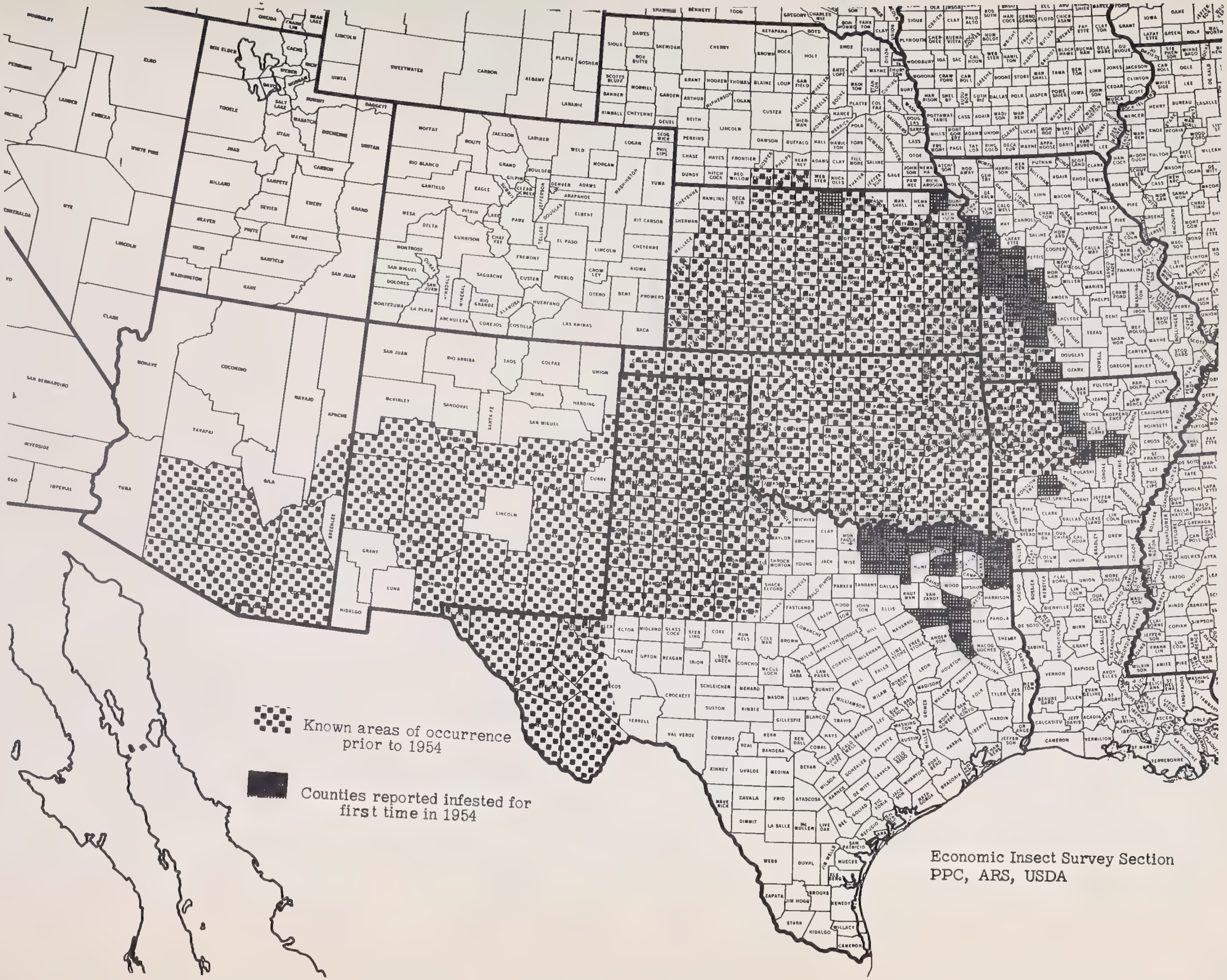
Surveys were conducted during 1954 to determine the intensity and/or distribution of the southwestern corn borer (*Diatraea grandiosella*) in Kansas, Missouri, Arkansas and Texas. The overall distribution of the insect in the United States, according to special State reports and Plant Pest Control Branch records, is shown on the accompaning map. Although *D. grandiosella* was once recorded in Baca County, Colorado (USDA Tech. Bul. 388:5, 1933); repeated efforts in the years since, according to a recent report by L. B. Daniels, have failed to find positive evidence. The Colorado county, therefore, is not shown as infested on the map.

Southwestern corn borer was found for the first time in 1954 in 6 new counties in Arkansas. Early season populations were heavy in areas of established infestations in this State, but light in the newly-infested areas. Indications are that the pest may move into the delta corn-growing area of the State. In Missouri, the borer spread rapidly northward during 1954 with 15 counties being found infested for the first time. Infestation in field corn in this State ranged from .01 to 44 percent. Three new counties were added during 1954 to the distribution in Kansas where the occurrence of the insect is now nearly statewide. Fifteen counties in north east Texas were reported infested for the first time.

Surveys during summer and fall in Texas showed southwestern corn borer to be the dominant species of stalk borer in the northeast, northwest, panhandle and plains areas. Average infestation ran as high as 50 percent in Hopkins County in the northeast and 100 percent in Hale County in the plains area.

GENERAL DISTRIBUTION OF SOUTHWESTERN CORN BORER

According to PPC records and State reports to February 1955


▨ Known areas of occurrence prior to 1954
■ Counties reported infested for first time in 1954

Economic Insect Survey Section
PPC, ARS, USDA

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